

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-27 (Canceled)

28. (Currently Amended) A method for time-divisionally outputting a plurality of voice signals, comprising the steps of:

generating the voice signals, wherein the voice signals are digital signals;

transmitting the voice signals through a plurality of channels, wherein each of the digital voice signals corresponds to one of the channels;

time-divisionally sampling the digital voice signals according to a periodic channel selecting signal to generate a multi-channel sampled signal;

sending the multi-channel sampled signal to a pulse width modulator to generate an output voice signal by adjusting the magnitude of the multi-channel sampled signal; causing the pulse width modulator to generate, based on the multi-channel sampled signal, pulses whose widths represent amplitudes of the output voice signal, converting the pulses corresponding to the multi-channel sampled signal to an analog output voice signal; and amplifying the magnitude of the output voice signal; and

outputting the output voice signal.

29.(Previously Presented) The method as claimed in claim 28, wherein the period of the channel selecting signal corresponds to the number of the channels.

30.(Previously Presented) The method as claimed in claim 28, wherein the voice signals are eight-bit digital signals.

31. (Canceled)

32. (Previously Presented) The method as claimed in claim 28, wherein each of the voice signals is sampled at least once per sampling cycle.

33. (Currently Amended) An apparatus for time-divisionally outputting a plurality of voice signals comprising:

a plurality of voice data generators for generating and transmitting the voice signals, wherein each of the voice signal generators includes at least a channel and each of the voice signals is transmitted through the corresponding channel;

a channel selector coupled to the voice data generators for time-divisionally sampling the voice signals according to a periodic channel selecting signal to generate a multi-channel sampled signal;

a voice generator including a pulse width modulator coupled to the channel selector for modulating the multi-channel sampled signal to generate an output voice signal, said pulse width modulator being arranged to generate, based on the multi-channel sampled signal, pulses whose widths represent amplitudes of the output voice signal, and said voice generator further converting said pulses into an output voice signal; and

a speaker coupled to the voice generator for outputting the output voice signal,

wherein the output voice signal is generated by adjusting magnitudes of the multi-channel sampled signals and converting the multi-channel sampled signal to the output voice signal, wherein the output voice signal is an analog signal.

34.(Previously Presented) The apparatus as claimed in claim 33, wherein the period of the channel selecting signal corresponds to the number of the channels.

35.(Previously Presented) The apparatus as claimed in claim 33, wherein the voice signals are eight-bit digital signals.

36.(Canceled)

37. (Canceled)

38.(Currently Amended) The apparatus as claimed in claim 33, wherein the most significant bit (MSB) of the multi-channel sampled signal is transmitted to the voice generator through a first pathway, and the remaining bits of the multi-channel sampled signal are transmitted to the voice generator through a second pathway.

39.(Previously Presented) The apparatus as claimed in claim 38, wherein the voice generator further includes a high-speed counter and a switch.

40.(Previously Presented) The apparatus as claimed in claim 39, wherein the switch is controlled according to the most significant bit of the multi-channel sampled signal.

41. (Previously Presented) The apparatus as claimed in claim 36, wherein the voice generator is a digital-to-analog converter.

42.(Previously Presented) The apparatus as claimed in claim 33, wherein the voice generator further includes a power amplifier for amplifying the magnitude of the output voice signal.

43.(Previously Presented) The apparatus as claimed in claim 33, wherein each of the voice signals is sampled at least once per sampling cycle.

44. (Previously Presented) An apparatus for time-divisionally outputting a plurality of voice signals comprising:

a plurality of voice data generators for generating and transmitting the voice signals, wherein each of the voice signal generators includes at least a channel and each of the voice signals is transmitted through the corresponding channel;

a time-division multiplexing unit coupled to the voice data generators for time-divisionally sampling the voice signals to generate a multi-channel sampled signal;

a voice generator coupled to the time-division multiplexing unit for modulating the multi-channel sampled signal to generate an output voice signal; and

a speaker coupled to the voice generator for outputting the output voice signal;

wherein the output voice signal generated by the voice generator contains voice information of the plurality of voice signals.

45. (Previously Presented) The apparatus as claimed in claim 44, wherein the ratio of a first voice signal in the multi-channel sampled signal is adjusted by controlling the number of channels occupied by the first voice signal.